

KULAYEV, Yu.F., inzh. (g.Chelyabinsk)

Use of electric traction in local operations. Zhel.dor.transp. 42  
no.12:63-64 D '60. (MIRA 13:12)  
(Chelyabinsk Province—Electric railroads)

KULAYEV, Yu. F., inzh. (Sverdlovsk)

Establishment of electric power expenditure standards on the  
traction of mixed and transfer trains. Elek. i topl. tiaga 6  
no.9:11-12 S '62. (MIRA 15:10)

(Electric railroads---Current supply)

KULAYEV, Yu.F., inzh.

Effectiveness of the use of electric locomotives in the local operations  
of the Ural railroads. Trudy TSNII MPS no.266:65-102 '63.

(MIRA 17:2)

KHIL'CHENKO, V.F., inzh. (Sverdlovsk); KULAYEV, Iu.F., inzh. (Sverdlovsk)

Distribution of the stations for the preparation of cars for  
loading. Zhel. d<sup>r</sup>. transp. 47 no.1:50-55 Ja '65. (MIRA 18:3)

PERIODICAL ABSTRACTS

Sub.: USSR/Engineering

AID 4188 - P

KULAYEVA, A. F.

ATSETILENO-KISLORODNAYA SVARKA LATUNI L62 PRISADOCHNYM MATERIALOM LK62-05 (Oxy-Acetylene Welding of L62 Brass with the LK62-05 Welding Admixtures). Svarochnoye proizvodstvo, no. 1, Ja 1956: 30-31.

The author describes the experience with this method of welding at the Sumy Machine-Building Plant im. Frunze, where it was adapted in the welding of rotors for the centrifugal machines manufactured there. The practice effected great savings of time (reduction was achieved from 52.72 norm/hours for one piece production to 8.49 norm/hours) and significant improvements in the quality and strength of the welding. Two macrostructure and microstructure pictures of a seam, 1 table and sketch.

BONDAREV, A.A.; KULAYEVA, A.F.; MIKHAYLICHENKO, M.D.

Advanced methods for machining instrument parts. Avtom. i prib. no.2:  
63-66 Ap-Je '65. (MIRA 18:7)

GANELIN, Georgiy Zalmanovich; KULAYEVA, Inna Georgiyevna; IVANOV,  
B.N., red.

[Multiple connection switches] Perekluchatali parallel'-  
nykh soedinenii (PPS). Leningrad, 1965. 21 p.  
(MIRA 18:10)

DOVNAR-ZAPOL'SKAYA, Nadezhda Marklanovna; KOROLEVA, Nadezhda Sergeyevna;  
KULAYEVA, Lyudmila Iosifovna; LUPANDINA, Ol'ga Sergeyevna;  
NEMILOVA, Tat'yana Konstantinovna [deceased]; OSTROVSKAYA, Al'ma  
Yul'yevna, dotsent, red.; GORDEYEVA, L.N., red.; YERMAKOV, M.S.,  
tekhn.red.

[German-Russian mechanical and mathematical dictionary] Nemetsko-  
russkii mekhaniko-matematicheskii slovar'. Pod red. IU.A.Ostrovskoi.  
Moskva, Izd-vo Mosk.univ., 1960. 236 p. (MIRA 13:9)

(German language--Dictionaries--Russian)

(Mathematics--Dictionaries)

(Mechanics--Dictionaries)



GRABENKO, A.D.; PEL'KIS, P.S.; KULAYEVA, L.N.

Substituted arylamides of dithioacids. Part 4: Preparation  
of amides of substituted arylamides of dithiomalonic acid. Zhur.ob.  
khim. 32 no.7:2248-2254 J1 '62. (MIRA 15:7)

1. Institut organicheskoy khimii AN USSR.  
(Amides) (Malonic acid)

ACC NR: AP6023579

SOURCE CODE: UR/0409/66/000/003,0364/0367

AUTHOR: Grabenko, A. D.; Kulayeva, L. N.; Pel'kis, P. S.

ORG: Institute of Organic Chemistry, Academy of Sciences, UkrSSR, Kiev  
(Institut organicheskoy khimii Akademii nauk UkrSSR)

TITLE: Investigation of substituted amides of thiocarboxylic acids  
VII. Cyclization of arylamides of mono- and dithiomalonic acid  
derivatives

SOURCE: Khimiya goterotsiklicheskikh sovedineniy, no. 3, 1966, 364-367

TOPIC TAGS: thiazole, heterocyclic <sup>base</sup> compound, condensation reaction,  
~~cyclization~~, malic acid

ABSTRACT:

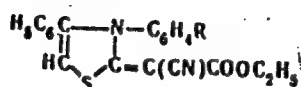
The purpose of this work was the search for new physiologically active derivatives of thiazole. The ethyl esters of arylamides of monothiocyanomalononic acid react with  $\alpha$ -bromoacetophenone in absolute ethanol to yield 2-carbethoxycyanomethylene-3-aryl-4-phenylthiazoles. Unlike the starting

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UDC: 547.789.5.542.952.52

ACC NR: AP6023579

Table 1.



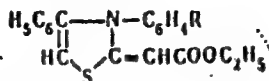
M.	R	T. mp., °C	Formula	Found S, %	Calculated S, %	Yield, %
1	H	>240	C <sub>20</sub> H <sub>18</sub> O <sub>2</sub> N <sub>2</sub> S	9.23; 9.28	9.19	94
2	p-CH <sub>3</sub>	207	C <sub>21</sub> H <sub>18</sub> O <sub>2</sub> N <sub>2</sub> S	8.70; 8.65	8.86	90
3	p-CH <sub>3</sub> O	188	C <sub>21</sub> H <sub>18</sub> O <sub>3</sub> N <sub>2</sub> S	8.79; 8.87	8.47	81
4	m-Cl	210	C <sub>20</sub> H <sub>15</sub> O <sub>2</sub> N <sub>2</sub> S	8.42; 8.44	8.36	85
5	p-NH <sub>2</sub> SO <sub>3</sub>	>240	C <sub>20</sub> H <sub>17</sub> O <sub>4</sub> N <sub>2</sub> S <sub>3</sub>	14.86; 14.90	14.98	58
6	p-C <sub>6</sub> H <sub>4</sub> OOC	218	C <sub>22</sub> H <sub>18</sub> O <sub>4</sub> N <sub>2</sub> S	7.63; 7.51	7.52	91
7	p-NO <sub>2</sub>	180	C <sub>20</sub> H <sub>15</sub> O <sub>4</sub> N <sub>2</sub> S			82

amide malonic esters, the resultant 2-carbethoxycyanomethylene derivatives of thiazole resist saponification with aqueous or alcoholic KOH or with 60% sulfuric acid. Reaction of diethyl esters of arylamides of thiocarboxymalonic acid with *m*-bromoacetophenone yielded 2-carbethoxymethylene-3-aryl-4-phenylthiazoles. When the reaction time on a steam

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ACC NR: AP6023579

Table 2.



M.	R	T. mp., °C.	Formula	Found s. %	Calculated s. %	Yield, %
1	H	203	$\text{C}_{11}\text{H}_{11}\text{O}_4\text{NS}$	9.77; 9.62	9.90	14
2	$p\text{-C}_2\text{H}_5\text{O}$	144	$\text{C}_{21}\text{H}_{21}\text{O}_5\text{NS}$	8.54; 8.53	8.72	16
3	$p\text{-NO}_2$	162—163	$\text{C}_{10}\text{H}_9\text{O}_4\text{N}_2\text{S}$	8.59; 8.54	8.69	71
4	$p\text{-NH}_2\text{SO}_2$	Does not melt	$\text{C}_{10}\text{H}_{10}\text{O}_4\text{N}_2\text{S}_2$	16.29; 16.32	15.92	10

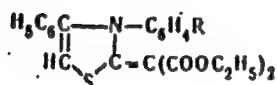
bath is shortened, or the reaction mixture is left to stand overnight at room temperature, 2-dicarbethoxymethylene-3-aryl-4-phenylthiazoles are formed. On heating for 3—4 hours, loss of a carbethoxy group results in formation of 2-carbethoxymethylene-3-aryl-4-phenylthiazoles:

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ACC NR: AP6023579

Heating of diarylamides of dithiomalononic acid with  $\omega$ -bromoacetophenone yields exclusively monobromides of 3,3'-diaryl-4,4'-diphenyl-2-methine-dithiazoles.

Table 3.

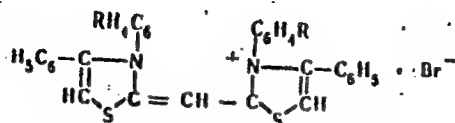


M.	R	T. mp., °C	Formula	Found s. %	Calculated s. %	Yield, %
1	H	162	$\text{C}_{22}\text{H}_{21}\text{O}_4\text{NS}$	7,90; 7,97	8,10	88
2	$p\text{-CH}_3$	160	$\text{C}_{23}\text{H}_{23}\text{O}_4\text{NS}$	7,95; 8,02	7,82	66
3	$p\text{-C}_2\text{H}_5\text{O}$	118	$\text{C}_{24}\text{H}_{25}\text{O}_4\text{NS}$	7,52; 7,37	7,28	85
4	$p\text{-Br}$	168—169	$\text{C}_{22}\text{H}_{19}\text{O}_4\text{NSBr}$	6,44; 6,36	6,75	70
5	$p\text{-NO}_2$	205—206	$\text{C}_{22}\text{H}_{17}\text{O}_4\text{N}_2\text{S}$	7,39; 7,47	7,27	67

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ACC NR: AP6023579

Table 4.



No.	R	T. mp., °C	Formula	Found s. %	Calculated s. %	Yield, %
1	H	Does not melt	$\text{C}_{21}\text{H}_{24}\text{N}_2\text{S}_2\text{Br}$	10.83; 10.70	11.25	85
2	p-CH <sub>3</sub> O	"	$\text{C}_{22}\text{H}_{24}\text{O}_2\text{N}_2\text{S}_2\text{Br}$	9.96; 10.02	10.17	83
3	o-C <sub>6</sub> H <sub>5</sub> O	"	$\text{C}_{23}\text{H}_{24}\text{O}_2\text{N}_2\text{S}_2\text{Br}$	9.94; 9.87	9.77	78
4	p-C <sub>6</sub> H <sub>5</sub> O	"	$\text{C}_{23}\text{H}_{24}\text{O}_2\text{N}_2\text{S}_2\text{Br}$	9.61; 9.46	9.77	86

Orig. art. has: 4 tables.

[W. A. 50; CBE No. 10]

SUB CODE: 07/ SUBM DATE: 31Dec64/ ORIG REF: 004/ OTH REF: 001

Card 5/5

GRABENKO, A. D.; PEL'KIS, P. S.; KULAYEVA, L. N.

Substituted arylamides of dithiocarboxylic acids. Part 5:  
Amides of substituted arylamides of phenylazothiomalonic  
acid. Zhur. ob. khim. 33 no.1:118-120 '63.  
(MIRA 16:1)

1. Institut organicheskoy khimii AN UkrSSR.

(Malonamide) (Substitution(Chemistry))

GRABENKO, A.D.; KULAYEVA, L.N.; PEL'KIS, P.S.

Substituted aryl amides of dithiocarboxylic acids. Part 6: Synthesis of aryl azo derivatives of monothiomalonic acid aryl amides and their esters. Zhur.ob.khim. 33 no.7:2227-2231 J1 '63.

(MIRA 16:8)

1. Institut organicheskoy khimii AN UkrSSR.  
(Malonamide) (Azo compounds)



KULAYEVA, IV. I.

✓ Processes of mineral formation during service of Dinas in the roof of an electric tin smelter. N. I. Kulayeva, *Ogneupory* 20, 228-33 (1955).—Petrographic investigation leads to following conclusions: Dinas acquires a definite zonality with presence of tridymite and little changed zones. Absence of cristobalite zone indicates lighter-temp. conditions compared with Dinas from the roof of an elec. steel smelter. Formation of  $\text{CaSO}_4$  in the little changed zone is probably connected with the chem. action of the  $\text{SO}_2$  from the furnace atm. with the pseudowollastonite of the Dinas. The only Sn compd. present in the reaction layer on the Dinas was  $\text{SnO}_2$ .  $\text{ZnO}$  reacts with the  $\text{SiO}_2$  of the brick to form  $\text{Zn}_2\text{SiO}_4$ . In the reaction layer there forms a glass of complex chem. compn., which includes, in addn. to  $\text{SiO}_2$  and alkali, also apparently such components as  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{TiO}_2$ ,  $\text{PbO}$ , possibly  $\text{SnO}_2$ , and others. Wear of Dinas is rapid.

B. Z. Kamich

KULAYEVA, N.I.

Chemical and mineralogical study of refractory materials after  
service performance in tin smelting furnaces. Trudy IGM no.30:  
106-123 '58. (MIRA 12:10)

(Refractory materials)

USSR/Plant Physiology - Respiration and Metabolism.

I.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95627

Author : Kursanov, A.L., Kulayeva, O.N.

Inst : -

Title : Metabolism of Organic Acids in the Roots of Cucurbita L.

Orig Pub : Fiziol. rasteniy, 1957, 4, No 4, 322-331

Abstract : In an ether extract of the roots and in the lymph of young plants of the Mozoleyskaya variety of Cucurbita L., which were raised in a full nutrient mixture and in solutions without P, the organic acids and ketoacids were determined by paper chromatography. Root fixation of  $\text{CO}_2$  was studied by means of calculating the radioactivity of an alcohol extract after absorption of carbonate by the roots (0.005 n. of  $\text{NaHC}^{14}\text{O}_3$  with activity of 20  $\mu$ curies in 300 ml). The radioactivity of each separate organic acid was determined after their chromatographic division. On the basis of the results obtained, the authors conclude that the

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USSR/Plant Physiology - Respiration and Metabolism.

I.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95627

the roots into the organs above ground. The work was  
carried out at the Institute of Plant Physiology AS USSR.  
Bibliography, 53 titles. -- N.P. Karobleva

Card 3/3

USSR / Plant Physiology. Mineral Nutrition.

I-2

Abs Jour : Ref Zhur - Bio., No 22, 1958, No 9925

Author : Kulayova, O. N.; Silina, Ye. I.; and Kurnosov, A. L.

Inst : Institute of Plant Physiology, AS USSR

Title : Ways of Primary Assimilation of Ammoniacal Nitrogen in the Roots of Pumpkin.

Orig Pub : Fiziol. Rasteniy, 4, No 6, 520-528, 1957

Abstract : In the Institute of Physiology, Academy of Sciences USSR, plants were grown in aqueous cultures on complete nutrient mixture, nutrient mixture without P at the beginning of experiment but with a short-time P nutrition at the end of the experiment, and nutrient mixture without P throughout the whole experiment. The method of chromatography of paper was used to investigate the composition of free amino acids in the roots and juice of pumpkin. Upon feeding of plants

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USSR / Plant Physiology. Mineral Nutrition.

I-2

Abs Jour : Roz Zhur Biol., No 22, 1958, No 99223

with  $\text{K}_2\text{HPO}_4$  through roots,  $\text{Cl}^{14}$  was detected in the composition of root amino acids, which indicates the synthesis of these acids directly in the roots. In the roots there predominated alanine,  $\gamma$ -aminobutyric acid, and glutamine; altogether, 18 amino acids were detected. The amino acid composition of the roots is similar to that of the juice. The principal transport forms of  $\text{NH}_2$  groups in the pumpkin were found to be alanine, glutamine and  $\gamma$ -aminobutyric acid. The phosphorus starvation caused an acute derangement of the nitrogen metabolism in the roots of pumpkin: there occurred a decrease in the assimilation of ammoniacal N by the roots, synthesis of a number of amino acids, and protein formation, and there appeared unidentified substances with guanidine grouping and allantoin, i. e., compounds with a high content of N in the molecule, the accumulation of which is not characteristic of the normal metabolism in the pumpkin. Short-time phosphorus feeding reestablished normalcy in the plants. Bibl., 19 titles. G. V. Udovenko.

Card 2/2

BORODULINA, F.Z., KULAYEVA, O.N.

Some specific features of the water cycle in oak seedlings on saline soils. Nauch.dokl.vys.shkoly; biol.nauki no.1:162-167 '58 (MIRA 11:8)

1. Predstavlena kafedroy fiziologii rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

(OAK)

(ALKALI LANDS)

(PLANT PHYSIOLOGY)

KULAYEVA, O. N., Candidate of Biol Sci (diss) -- "The metabolism of the roots of the melon in connection with the assimilation of ammonia nitrogen". Moscow, 1959. 21 pp (Inst of Plant Physiology im K. A. Timiryazev of the Acad Sci USSR), 110 copies (KL, No 22, 1959, 112)



KULAYEVA, O.N.

Impressions of research done at the Physiological Section of  
the Botanical Institute in Halle (German Democratic Republic).  
Fiziol.rast. 6 no.2:253-254 Mr-Apr '59. (MIRA 12:5)  
(Halle--Botanical research)

KULAYEVA, O.N.; VOROB'YEVA, I.P.

Made of action of kinetin on protein synthesis. Fiziol. rast. 9  
no.1:106-108 '62. (MIRA 15:3)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy  
of Sciences, Moscow.  
(Protein metabolism) (Kinetin)

KULAYEVA, O.N.; SVESHNIKOVA, I.N.; KLYACHKO, N.L.; POPOVA, E.A.

Reduction of the protein-nucleic acid metabolism in severed leaves  
during their virescence under the influence of kinetin. Dokl.  
AN SSSR 152 no.6:1475-1478 O '63. (MIRA 16:11)

1. Predstavleno akademikom A.L. Kursanovym.

KULAYEVA, O. N.; SVESHNIKOVA, I. N.

"Kinin-induced restoration of metabolic disturbances of yellow leaves."

report submitted for 10th Intl Botanical Cong, Edinburgh, 3-12 Aug 64.

AS USSR, Moscow.

KURBANOV, A.L.; KULAYEVA, O.N. (Moskva)

Current trends in the development of botany; based on materials  
from the 10th International Botanical Congress. Usp. sovr. biol.  
59 no.1:3-11 Ja-F '65. (MIRA 18:3)

KURSANOV, A.L.; KULAYEVA, O.N.; SVESHNIKOVA, I.N.; POPOVA, E.A.;  
BOLYAKINA, Yu.P.; KLYACHKO, N.L.; VOROB'YEVA, I.P.

Restoration of cellular structures and metabolism in yellow  
leaves under the effect of 6-benzylaminopurine. Fiziol. rast.  
11 no.5:838-847 S.-O '64. (MIRA 17:10)

1. Timiriazev Institute of Plant Physiology, U.S.S.R., Academy  
of Sciences, Moscow.

VIPPER, P.B.; KULAYEVA, O.N.

Tenth International Botanical Congress. Izv. AN SSSR. Ser. biol.  
no.2:314-318 Mr-Ap '65. (MIRA 18:4)

KLYACHKO, N.L.; KULAYEVA, O.N.

Periodicity of protein synthesis in a wild tobacco leaf. Dokl.  
AN SSSR 164 no.1:216-218 S '65. (MIRA 18:9)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR.  
Submitted August 27, 1964.



KULAYEVA, O.N.; KLYACHKO, N.L.

Effect of quinines on the protein synthesis in leaves. Dokl.  
AN SSSR 164 no.2:458-461 S '65. (MIRA 18:9)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR.  
Submitted August 24, 1964.

KULAYEVA, O.N.; POPOVA, E.A.

Quantitative determination of nucleic acids in plant leaves.  
Fiziol. rast. 12 no.3:558-564 My-Je '65. (MIRA 18:1C)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR,  
Moskva.

KULAYEVA, O.N.; CHERNYSHEV, Ye.A.; KAYUTENKO, L.A.; DOIGAYA, M.Ye.;  
VOROB'YEVA, I.P.; POPOVA, E.A.; KLYACHKO, N.I.

Synthesis and test of the physiological activity of some compounds  
of the kinin series. Fiziol. rast. 12 no.5:902-908 S-O '65.

(MIRA 19:1)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva  
i Institut organicheskoy khimii imeni Zelinskogo AN SSSR, Moskva.

KULAYEVA, T.M.

Material on the ecology of the eagle owl (*Bubo bubo ruthenus* Zhitkov  
et Buturlin). Izv.Kazan.fil.AN SSSR.Ser.biol.i sel'khoz.nauk no.1:  
197-206 '49. (MLBA 10:2)

(Tatar A.S.S.R.—Owls)

POPOV, V.A.; VORONOV, N.P.; KULAYEVA, T.M.

Studies of the ecology of shrews (Soricidae) of the Raifa Forest  
(Tatar A.S.S.R.). Izv.Kazan.fil.AN SSSR.Ser.biol.i sel'khoz.nauk  
no.2:173-208 '50. (MLRA 10:2)  
(Raifa region--Shrews)

POPOV, V.A.; POPOV, Yu.K.; PRIYEZZHEV, G.P.; KULAYEVA, T.M.; VORONOV, N.P.;  
GARANIN, V.I.; NAZAROVA, I.V.; IZOTOVA, T.Ig.; KRASOVSKAYA, L.A.

Results of studying the animal kingdom in the flood zone of the  
Kuybyshev Hydroelectric Power Station. Trudy Kazan. fil. AN SSSR.

Ser. biol. nauk no.3:7-217 '54

(MLRA 10:5)

(KUYBYSHEV RESERVOIR REGION--ZOOLOGY)

(WILD LIFE, CONSERVATION OF)

CHAYKIN, P. I.

CHAYKIN, T. M. -- "The Comparative Ecology of Red Voles of the Tatar ASSR." Zoological Inst, Acad Sci USSR. Academic Council. Leningrad, 1956.  
(Dissertation for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya Letopis', No 9, 1956

KULAZHENKO, A.

Our experience in the utilization of drained lands. Gidr.  
i mel. 15 no.9:30-33 S '63. (MIRA 17:1)

1. Predsedatel' kolkhoza imeni Kirova Pinskogo proizvodst-  
vennogo upravleniya BSSR.



KULAZHENKO, A.

Brief news. Metallurg 5 no.2:22 F '60.

(MIRA 13:5)

(Metallurgical plants)

KULAZHENKO, Aleksey Nikolayevich[Kulazhenka, A.M.]; AREKHAI, V.I.  
red.; ZEN'KO, M.M., tekhn. red.

[High potato yields in peat soils]Vysoki uradzhai bul'by na  
tarfinikakh. Minsk, Dziarzh. vyd-va sel'skhaspadarchai lit-  
ry BSSR, 1962. 11 p. (MIRA 15:11)

1. Starshina kolkhoza imeni Kirova Lagishinskogo rayona  
Brestskoy oblasti (for Kulazhenko).  
(Potatoes) (Peat soils)

KULAZHENKO, M.I.

Removal of five calcified formations from the central cranial fossa.  
Vop.neirokhir. 19 no.3:54-55 My-Je '55. (MLRA 8:5)

1. Iz neyrokhirurgicheskoy kliniki Krymskogo meditsinskogo instituta  
imeni I.V.Stalina.

(BRAIN,diseases,  
calcified tumors & non-tumoral form., surg.)

(BRAIN, neoplasms,  
calcified, surg.)

(CALCIFICATION,  
brain, tumoral & non-tumoral form., surg.)

KHERSONSKIY, G.R.; KULAZHENKO, M.I. (Odessa)

Clinical aspects, pathogenesis, and immediate and late results of operative treatment of cholesteatomas following tuberculous meningitis. Vrach. delo no.2:82-86 F'64 (MIRA 17:4)

1. Tuberkulezno-meningitnoye i neyrokhirurgicheskoye otdeleniye Odesskoy oblastnoy bol'nitsy i klinika nervnykh bolezney Odesskogo meditsinskogo instituta.

KULAZHENKO, M. I.; KHERSONSKIY, G. R. (Odessa)

Cholestantomas in the area of the cauda equina following tubercu-  
lous meningitis. Vop. neirokhirurgii no.3:27-31 '62.

(MIRA 15:7)

1. Neyrokhirurgicheskoye i tuberkulezno-meningitnoye otdeleniye  
(G. R. Khersonskiy) oblastnoy bol'nitsy i klinika nervnykh  
bolezney Odesskogo meditsinskogo instituta.

(SPINAL CORD—TUMORS) (MENINGES—TUBERCULOSIS)

KULAZHENKO, V.I. (Simferopol').

All-steel permanent dental prosthesis. Stomatologia no.1:55-60  
Ja-F '54. (MLRA 7:1)  
(Teeth, Artificial)

KULAZHENKO, V.I., podpolkovnik meditsinskoy sluzhby

Primary osteoplasty of the mandible. Voenn-med. zhurn. no.1:74-76  
Ja '56 (MLRA 10:5)

(MANDIBLE surgery,  
osteoplasty) (Rus)

KULAZHENKO, V.I., podpolkovnik meditsinskoy sluzhby

Intraosseous fixation of hollow bone fractures with acrylate-metal  
rods. Voen.med.zhur. no.12:51-55 D '56. (MIRA 10:3)

(FRACTURES, surg.

intraosseous fixation of hollow bone fract. with acrylate-  
metal rods)



KULAZHENKO, V.I.

Using antibiotic aerosols in stomatology. Stomatologiia  
35 no.5:3-6 S-O '56 (MLRA 10:4)  
(ANTIBIOTICS) (STOMATOLOGY) (AEROSOLS)

KULAZHENKO, V.I., podpolkovnik meditsinskoy sluzhby

Splint for treating fractures of the maxilla and bones of the nose.  
Voen.-med.zhur. no.9:85-88 S '59. (MIRA 13:1)  
(MAXILLA, fract. & disloc.)  
(NOSE, fract. & disloc.)

KULAZHENKO, V.I. (Odessa)

Treatment of parodontosis with local negative pressure. Stomatologia  
38 no.4:17-23 J1-Ag '59. (MIRA 12:12)  
(GUMS--DISEASES) (DENTAL INSTRUMENTS AND APPARATUS)

KULAZHENKO, V.I., podpolkovnik med.sluzhby

Primary and delayed replanting of teeth and roots. Vrach.delo  
no.2:159-164 F '60. (MIRA 13:6)

1. Okruzhnaya stomatologicheskaya poliklinika Odesskogo voyen-  
nogo okruga.

(TEETH--TRANSPLANTATION)

(DENTAL INSTRUMENTS AND APPARATUS)

ARYAYEV, L.N., kand.med.nauk; KULAZHENKO, V.I. (Odessa)

Nitrogen oxide anesthesia at the stage of analgesia during stomatologic operations by means of a portable anesthetic apparatus.

Stomatologiya 40 no.4:39-42 J1-Ag '61. (MIRA 14:11)

(ANESTHESIA) (NITROGEN OXIDE) (STOMATOLOGY)

KULAZHENKO, V.I., kand.med.nauk

Visual devices for teaching orthopedic stomatology. Stomato-  
logiia 42 no.2:76-78 Mr-Ap'63 (MIRA 17:3)

1. Iz kafedry ortopedicheskoy stomatologii ( zaveduyushchiy  
V.I.Kulazhenko) Odesskogo meditsinskogo instituta.

GABEIS, K.K.; KULAZHENKO, V.I.

Our efforts to control vibration. Bezop. truda v prom. 8  
no.11:25-26 N '64. (MIRA 18:2)

1. Rudnik im. Dzerzhinskogo krivorozhskogo basseyna.

KULAZHENKO, W.E. (Minsk)

Viral influenza in fetuses and newborn infants. Arkh. pat.  
no.11:12-18 '64. (MIRA 18:11)

1. Kafedra patologicheskoy anatomii (zav. - prof. Yu.V.  
Gul'kevich) Minskogo meditsinskogo instituta.



ACCESSION NR: AP4039700

S/0051/64/016/006/0936/0940

AUTHORS: Striganov, A. R.; Kulazhenkova, N. A.

TITLE: The isotopic shift in the spectrum of the singly ionized samarium atom

SOURCE: Optika i spektroskopiya, v. 16, no. 6, 1964, 936-940

TOPIC TAGS: samarium, atomic spectrum, isotopic shift, electron configuration, level transition, ionization phenomena

ABSTRACT: On the basis of earlier results by one of the authors (A. R. Striganov, V. A. Katulin, V. V. Yelisseyev, Opt. i spektr., v. 12, 171, 1962), which disclosed new interesting features in the isotopic shift of SmI, a more detailed measurement was made, with the aid of separated isotopes, of the isotopic shift between the components of even-even samarium isotopes on eight lines of SmII. The apparatus and the enriched samarium isotopes were the same as in the

Card 1/5

ACCESSION NR: AP4039700

earlier investigation. A hollow-cathode discharge tube was used as the light source. The relative isotopic shift was shown to be different on lines with positive and negative displacements. It was established that the isotopic shift in the levels of the electron configuration  $4f^5 5d 6s$  is double that for the  $4f^6 6s$  levels, owing to peculiarities in the screening of the 6s-electrons. The electron configurations of 28 upper levels were obtained from the isotopic shift data. "The authors are grateful to student D. A. Volkov for participating in the measurements of several spectrograms." Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 04Apr63

DATE ACQ: 24Jun64

ENCL: 03

SUB CODE: NP

NR REF SOV: 003

OTHER: 007

Card ... 2/5

ACCESSION NR: AP4039700

ENCLOSURE: 01

λ, Å	1 Переход	2 Энергия верхнего уровня, см <sup>-1</sup>	3 Изотопическое смещение, 10 <sup>-3</sup> см <sup>-1</sup>			
			Δν (144-148)	Δν (148-150)	Δν (150-152)	Δν (152-154)
	Отрицательные сдвиги 4					
4424.34	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>16</sup> Se <sup>8</sup> p <sub>56</sub> <sup>0</sup> <sub>u</sub>	26506	81.4	52.2	65.3	33.8
4434.32	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>16</sup> Se <sup>8</sup> p <sub>43</sub> <sup>0</sup> <sub>u</sub>	25508	79.2	47.5	65.2	32.0
4519.03	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>16</sup> Se <sup>8</sup> p <sub>56</sub> <sup>0</sup> <sub>u</sub>	26506	96.7	55.0	77.2	40.6
	Положительные сдвиги 5					
4403.36	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub>	24222	78.7	50.2	75.7	28.4
4499.48	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub>	24222	63.7	42.3	63.8	28.1
4505.05	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub>	24194	104.8	65.0	95.8	45.4
4537.95	4/ <sup>16</sup> Se <sup>8</sup> F <sub>u</sub> — 4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub>	24040	83.1	57.3	84.3	36.5
6569.31	4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub> — 4/ <sup>15</sup> Se <sup>8</sup> d <sub>6</sub> <sup>0</sup> <sub>u</sub>	27263	186.0	114.5	102.8	84.7

Card 3/5

ACCESSION NR: AP4039700

ENCLOSURE: 02.

Isotopic shifts for  
8 lines of SmII

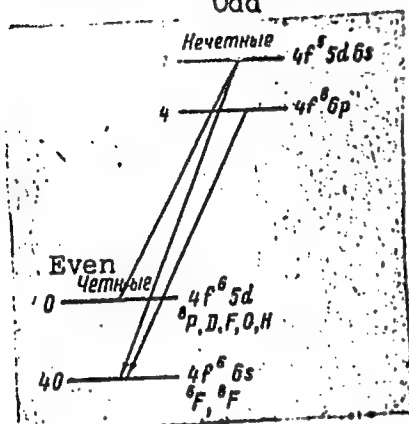
- 1 - Transition
- 2 - upper level energy,  $\text{cm}^{-1}$
- 3 - isotopic shift
- 4 - positive shifts
- 5 - negative shifts

Card 4/5

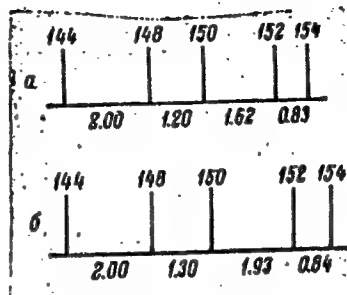
ACCESSION NR: AP4039700

Odd

ENCLOSURE: 03



Relative isotopic shift.  
a - lines with negative shift  
b - lines with positive shift



Level scheme of  $Sm^+$  and isotopic level shift

Card 5/5

STRIGANOV, A.R.; KULAZHENKOVA, N.A.

Isotopic shift in the spectrum of the singly ionized samarium  
atom. Opt. i spektr. 16 no.6:936-940 Je '64. (MIRA 17:9)

NECHIPORENKO, Yu.D.; KULAZHKO, V.A.

Increased phagocytic activity of the leucocytes in carp under the influence of levomycetin. Antibiotiki 7 no.1:50-52 Ja '62.

(MIRA 15:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut rybnogo khozyaystva  
Ukrainskoy akademii sel'skokhozyaystvennykh nauk  
(LEVOMYCETIN) (PHAGOCYTOSIS)

OLSUF'YEV, N.G.; TSVETKOVA, Ye.M.; BORODIN, V.P.; KOROLEVA, A.P.; SIL'CHENKO, V.S.; KHOROSHEV, I.G.; MYASNIKOV, Yu.A.; PERFIL'YEVA, Z.A.; KRATOKHVIL' N.I.; VAYSTIKH, M.A.; RAYDONIKAS, O.V.; BARANOVA, N.K.; ZIMINA, V.Ye.; TORMASOVA, L.N.; USTIN-PETROVA, T.F.; AREF'YEV, S.S.; KONKINA, N.S.; KUL'BA, A.P.; MAL'TSEVA, N.K.; SHELANOVA, G.M.; SORINA, A.M.; BRANITSKAYA, V.S.; PRUDNIKOVA, M.N.

Tularin from a vaccinal strain for epicutaneous use. Zhur. mikro-biol.epid. i immun. 27 no.9:22-28 S '56. (MLRA 9:10)

1. Iz Instituta epidemiologii i mikrobiologii im. N.F.Gamalei AMN SSSR i protivotuliaremiynykh stantsiy Stalingradskoy, Voronezhskoy, Tul'skoy, Plavskoy, Omskoy, Krasnodarskoy, Moskovskoy i Smolenskoy.  
(TULAREMIA, diagnosis,  
tularin epicutaneous test (Rus))



CA KUL'BA, F.Ya.

6

The stability of lead tetrachloride. P. Ya. Kul'ba (Leningrad Technol. Inst.). *Zhur. Priklad. Khim.* (J. Applied Chem.) 23, 339-44 (1950).—Pure dry  $PbCl_4$  is stable if kept at room temp., in the dark, under cover.  $H_2SO_4$  contg. 0.5% free  $SO_3$ . At  $100^\circ$ , decompn. proceeds actively, but not instantaneously; there is no exchange reaction with  $H_2SO_4$ . In soln. in  $CCl_4$ , in sealed tubes, partial and irreversible decompn. was found after 5 hrs. at  $105-8^\circ$ . The solns. decomp. very rapidly in the presence of even traces of moisture; this can be most effectively removed by oleum. Introduction of  $Cl_2$  does not improve the stability. Light causes rapid decompn.

Passage of dry  $SO_2$  through the soln. at room temp. causes some turbidity owing to  $PbCl_4 + SO_2 \rightleftharpoons PbCl_2 + SO_2Cl_2$ , but that decompn. is fairly slow; it is very rapid at higher temp., and instantaneous in the presence of moisture. Passage of  $H_2S$  produces a ppt. of  $PbCl_2$ . Dry  $HCl$  produces no changes. With iodine, the reaction is, quantitatively,  $PbCl_4 + I_2 = PbCl_2 + 2ICl$ . N. Thon.

Kul'ba, F. Ya.

USSR/Chemistry - Heat of formation

Card 1/1 Pub. 151 - 2/37

Authors : Kul'ba, F. Ya.

Title : Thermal effect of reaction of  $\text{PbCl}_2 (\text{cr}) + \text{Cl}_2 (\text{g}) \rightleftharpoons \text{PbCl}_4 (\text{liq})$  and the standard heat of formation of  $\text{PbCl}_4 (\text{liq})$ .

Periodical : Zhur. ob. khim. 24/10, 1700-1710, Oct 1954

Abstract : The heats of reaction of  $\text{PbCl}_4 (\text{liq}) + \text{J}_2 (\text{sol}) \rightarrow \text{PbCl}_2 (\text{cr}) + 2\text{JCl} (\text{sol})$  and  $\text{J}_2 (\text{sol}) + \text{Cl}_2 (\text{g}) \rightarrow 2\text{JCl} (\text{sol})$ , were investigated at standard conditions. The thermal effect of both reactions was established to be exothermal. The heat of formation of lead tetrachloride from crystalline lead chloride and gaseous chlorine, was established on the basis of experimental data. Also the standard heat of formation of  $\text{PbCl}_4 (\text{liq})$  from simple substances was determined from the experimental data. The thermal effect of a solution of lead tetrachloride in carbon tetrachloride is explained. Six references: 5-USSR and 1-USA (1922-1954). Tables; drawings.

Institution : The Leningrad Technological Institute, Leningrad

Submitted : April 10, 1954

AUTHOR: Kul'ba, R.Ya and Mironov, V.E. 556

TITLE: Thallium Triiodide and other products of the iodination of Thallium Iodide. (Triiodid Talliya i Drugie Produkty Iodirovaniya Talloiodida).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry) Vol.II, No.2, pp.244-252, 1957. (U.S.S.R.)

ABSTRACT: The aim of this work was to study the iodination of TlI, to check methods of separating thallium triiodide, to determine its structure and to explore the possibility of the existence of higher polyiodides of thallium. It has been shown that in the iodination of TlI in  $\text{CH}_3\text{OH}$  to  $\text{TlI}_3$ , the only intermediate product is a compound which has the simplest formula  $\text{Tl}_3\text{I}_4$ . Thallium penta-iodide has been isolated and a method for its synthesis found. This is the highest iodide produced by iodination of TlI in  $\text{CH}_3\text{OH}$ . Drying of polyiodides was best carried out at room temperature in air to constant loss of weight in unit time. It has been shown that  $\text{TlI} \cdot \text{I}_2$  exists in alcoholic solution in a state of tautomeric equilibrium, and that crystals of thallium triiodide are  $\text{Tl} [\text{I}_2]$ . The compounds  $\text{TlI}_3 \cdot \text{C}_4\text{H}_8\text{O}_2$  and  $\text{KI}_3 \cdot \text{C}_4\text{H}_8\text{O}_2$  have been isolated for the first time. It has been shown that in the formation of  $\text{ClI}_3$  in aqueous solutions and  $\text{TlI}_3$  in alcoholic solutions complete isotopic exchange between ions and molecular-iodine atoms takes place in 8-10 minutes. Complete isotopic exchange was also found in the

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Thallium Triiodide and Other Products of the Iodination of  
Thallium Iodide (cont.)

Polyiodides  $TlI_3$ ,  $TlI_5$  and  $KI_5$ , the preparation of which by the  
iodination of  $TlI$  and  $KI$  by gaseous iodine took place over  
12-14 hours.

There are 16 references of which 4 are Russian.

Received 26th September, 1956.

Card 2/2

KUL'BA, F.Ya.; MIRONOV, V.Ye.

Equilibriums in thallium iodide solutions, Zhur. neorg. khim. 2 no.8:  
1741-1747 Ag '57. (MIRA 11:3)

1. Leningradskiy tekhnologicheskii institut im. Lensovetu.  
(Thallium iodide) (Tautomerism)

27  
Equilibrium in solutions of thallium iodide. E. Ya.  
Kul'ba and V. E. Mironov / Leningrad Technol. Inst., Lenin-  
grad. Zaur. Nauch. Eksp. Z. 1974, No. 1, p. 100.

// Distr: HX4J

KUL'BA, F.Ya.; MIRONOV, V.Ye.

Formation of univalent thallium in solutions of complex iodides.  
Report No.1. Zhur. neorg. khim. 2 no.12:2734-2740 D '57.(MIRA 11:2)

1. Leningradskiy tekhnologicheskii institut im. Lensovet.  
(Thallium) (Solubility) (Iodides)

SOV/78-3-8-22/48

AUTHORS: Kul'ba, F. Ya., Mironov, V. Ye., Lyalin, O. O.

TITLE: On the Formation of Complex Bromides of Monovalent Thallium  
(Ob obrazovanii kompleksnykh bromidov odnovalentnogo talliya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1851-1854 (USSR)

ABSTRACT: The solubility of thallium-(I)-bromide in solutions of bromides of lithium, sodium, potassium and cesium in different concentrations (0,2 - 7,0 N) were determined at 25°C. The solubility of the thallium-(I)-bromide in solutions of sodium bromide at constant ionic degree was determined. The following compounds were isolated with cesium bromide and then analyzed:  $\text{CsTlBr}_2$  and  $\text{CsTlBr}_3$ . The stability constant of the complex ions  $\text{TlBr}$ ,  $\text{TlBr}_2^-$ ,  $\text{TlBr}_3^{2-}$ ,  $\text{TlBr}_4^{3-}$  was determined in LiBr, NaBr, KBr and CsBr. In lithium bromide the stability constant for  $\text{TlBr} = 0,09$ , for  $\text{TlBr}_2^- = 0,17$ , for  $\text{TlBr}_3^{2-} = 0,85$ , in sodium bromide solutions for  $\text{TlBr} = 0,12$ , for  $\text{TlBr}_2^- = 0,16$ ; in potassium bromide

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On the Formation of Complex Bromides of Monovalent Thallium SOV/73-3-8-22/48

solutions for  $\text{TlBr} = 0,12$ , for  $\text{TlBr}_2^- = 0,12$ , for  $\text{TlBr}_3^{2-} = 0,40$ ;  
in cesium bromide solutions for  $\text{TlBr} = 0,09$ , for  $\text{TlBr}_2^- = 0,10$ ,  
for  $\text{TlBr}_3^{2-} = 0,23$ .

The different solubility of the thallium-(I)-bromide in concentrated solutions of the bromides of sodium, potassium and cesium is due to the different tendency to form complexes. There are 3 tables and 6 references, 6 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: July 8, 1957

Card 2/2

AUTHORS: Kul'ba, F. Ya., Mironov, V. Ye. SOV/78-3-11-10/23

TITLE: III. On the Formation of the Complex Iodides of Univalent Thallium in Solutions (III. Ob obrazovanii v rastvorakh kompleksnykh yodidov odnovalentnogo talliya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2480 - 2486 (USSR)

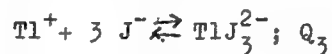
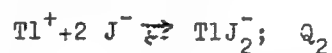
ABSTRACT: The composition and the stability constant of the complexes of the thallium iodides formed in solution were investigated. The solubility of thallium was determined in solutions of potassium iodide at temperatures of 20, 30, 40, 50, 60 and 70°C and was compiled in the tables 1,2,3,4,5, and 6. The solubility of thallium iodide in solutions of magnesium iodide and barium iodide was as well investigated at 25°C. The results show that the solubility of thallium iodide in potassium iodide rises considerably under the formation of complexes with an increase in temperature from 20 to 70°C. The stability of the complexes of the thallium iodides is reduced with an increase in temperature. The

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III. On the Formation of the Complex Iodides of  
Univalent Thallium in Solutions

307/78-3-11-10/23

formation of complex iodides proceeds according to  
the following reactions:



$Q_2$ ,  $Q_3$ , and  $Q_4$  denote the formation heat of the thallium iodide complexes. The orienting values of the formation heat of the thallium iodide complexes were calculated and given in table 1. The results obtained show that the formation heat increases with an increase in temperature. The solubility products were determined at temperatures of 20, 30, 40, 50, 60 and 70°C. The difference in the stability of the complexes of thallium (I) iodide in the solutions of various metal iodides is caused by the influence of the complex formers on the

Card 2/3

III. On the Formation of the Complex Iodides of  
Univalent Thallium in Solutions

307/79-3-11-10/23

inner sphere of the cations in the solutions. In the  
inner sphere of the complexes the cations compete with  
the thallium ions for the binding of iodine ions. There  
are 12 tables and 2 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet  
(Leningrad Institute of Technology imeni Lensovet )

SUBMITTED: October 2, 1957

Card 3/3

5(4)

AUTHORS:

Kul'ba, F. Ya., Mironov, V. Ye.

SCV/78-4-4-9/44

TITLE:

Complex Compounds of Trivalent Thallium With 2-2'-Dipyridyl  
(Kompleksnyye soyedineniya trekhvalentnogo talliya s 2-2'-dipiridilom)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 761-763  
(USSR)

ABSTRACT:

The complex compounds of thallium nitrate with two and three molecules of 2-2'-dipyridyl were prepared as colorless, easily soluble salts. The solubility of the first compound in water at 25° is  $0.09 \pm 0.01$  mol/l. The molecular electric conductivity of the first compound at pH 3.5 is  $382 \text{ ohm}^{-1}$ , while that of the complex thallium compound with three molecules of 2-2'-dipyridyl is  $378 \text{ ohm}^{-1}$ . The electric conductivity in aqueous solution shows that the compounds dissociate into 4 ions and have the structures  $[\text{TlDp}_2](\text{NO}_3)_3$  and  $[\text{TlDp}_3](\text{NO}_3)_3$ . To determine the stability of the complex ion

$\text{TlDp}_3^{3+}$  the redox potential was investigated. The general stability constant of the  $\text{TlDp}_3^{3+}$  ion was determined using the

Card 1/3

Complex Compounds of Trivalent Thallium With  
2-2'-Dipyridyl

SOV/78-4-4-9/44

following equation:  $K_{TlDp_3^{3+}} = \frac{[Tl^{3+}][Dp]^3}{[TlDp_3^{3+}]} = (5 \pm 2.5) \cdot 10^{-26}.$

The synthesis of the complex compound with 3 molecules of 2-2'-dipyridyl was carried out by dissolving  $[TlDp](NO_3)_3$  in a solution of 2-2'-dipyridyl. Finally, the compound formed was precipitated with a saturated solution of 2-2'-dipyridyl in diethyl ether. The yield with this method is 85-95 %. The nature of the exchange of  $[TlDp_2](NO_3)_3$  with potassium halides and sodium perchlorate was investigated. The experiments show that potassium chloride and sodium perchlorate cause the  $[TlDp_2](NO_3)_3$  to precipitate as the complex compounds  $[TlDp_2](ClO_4)_3$  and  $TlDp_2Cl_3$ . Potassium bromide causes  $[TlDp_2](NO_3)_3$  to form the complexes  $TlDp_2Br_3$  and  $TlDpBr_3$ . Potassium iodide causes the complex  $[TlDpJ_2]J$  to form. A table gives the compositions of the solutions whose redox potentials were investigated.

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Complex Compounds of Trivalent Thallium With  
2-2'-Dipyridyl

SOV/78-4-4-9/44

There are 1 table and 5 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet  
(Leningrad Technological Institute imeni Lensovet). Kafedra  
neorganicheskoy khimii (Chair of Inorganic Chemistry)

SUBMITTED: January 13, 1958

Card 3/3

5(2)

SOV/78-4-6-30/44

AUTHORS: Kul'ba, F. Ya, Mironov, V. Ye.

TITLE: Complex Compounds of Trivalent Thallium With 1-10-Phenanthroline (Kompleksnyye soyedineniya trekhvalentnogo talliya s 1-10-fenantrolinom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1393 - 1397 (USSR)

ABSTRACT: 13 complex compounds of thallium with 1-10-phenanthroline and one complex with 2-2-dipyridil were isolated and the products analyzed. The analysis results of these compounds are summarized in table 1. In the case of an interaction between the aqueous solution  $TlPh_n(NO_3)_3$  ( $n=2$  or  $3$ ) and a potassium iodide solution it was found that one iodine ion displaces one or two molecules 1-10-phenanthroline and precipitates a compound of the composition  $[TlPhJ_2]J$ . The solubility of  $TlPhJ_3$  in water, alcohol, and especially in aqueous solution of potassium iodide is low. The solubility amounts in water at  $25^\circ$  to  $3 \cdot 10^{-5}$  mol/l and in alcohol to  $10^{-4}$  mol/l.  $TlPhJ_3$

Card 1/2



Complex Compounds of Trivalent Thallium With  
1-10-Phenanthroline

SOV/78-4-6-30/44

can be used for the quantitative determination of thallium.  
The electric conductivity of the following thallium aminates  
was carried out in aqueous solutions,  $[\text{TlPh}_2](\text{NO}_3)_3$ ,  
 $[\text{TlPh}_3](\text{NO}_3)_3$ ,  $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$ ,  $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$ ,  $[\text{TlPh}_2\text{Cl}_2]\text{NO}_3$ ,  
 $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$ ,  $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$ ,  $[\text{TlDp}_2\text{Cl}_2]\text{NO}_3$ . The results are given  
in table 3. There are 3 tables and 4 references, 3 of which  
are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet) Kafedra neorganicheskoy khimii (Chair of Inorganic Chemistry)

SUBMITTED: March 1, 1958

Card 2/2

68223

5.2620

5(2)

AUTHORS:

Kul'ba, F. Ya., Mironov, V. Ye.

S/078/60/005/02/009/045

B001/B016

TITLE:

The Influence Exercised by the Cations of Alkali Metals Upon Composition and Stability of the Ions  $[Tl(CNS)_n]^{1-n}$ 

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 2, pp 287-291 (USSR)

ABSTRACT:

The authors investigated the solubility of Tl halides in concentrated solutions of halides of alkali- and alkaline-earth metals, in previous papers (Refs 1-4), and found a considerable influence of the nature of the cation upon the solubility. They denoted this phenomenon as the influence of the cation of the outer sphere, and established the order of the alkali- and alkaline-earth cations, in which stability and coordination number of the complex compounds  $TlHal_n^{1-n}$  increase. In the

present paper, the same phenomena were investigated in thallium thiocyanates in solutions of Li-, Na-, K-, and Cs-thiocyanate at 25° and concentrations of 0.1 - 9.69 M. In dilute solutions of alkali thiocyanate, the solubility of  $TlCNS$  decreases in the order  $CsCNS > KCNS > NaCNS > LiCNS$ , reaches a minimum at  $N \sim 0.5$ ,

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The Influence Exercised by the Cations of Alkali  
Metals Upon Composition and Stability of the Ions

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$[Tl(CNS)_n]^{1-n}$

and increases rapidly with increasing concentration of the alkali thiocyanate. In this connection, a reversal of the effect of the alkali thiocyanates occurs since in the range of 5 - 8 N the solubility of  $TlCNS$  in  $LiCNS$  is highest, and decreases in the order:  $LiCNS$ ,  $NaCNS$ ,  $KCNS$ ,  $CsCNS$ . The influence exercised by the cation of the outer sphere upon the complex <sup>7</sup> formation cannot be explained merely by the change in the activity coefficient. In table 2, the solubility of  $TlCNS$  in 1 - 8 N  $NaCNS$  at constant ionic strength 8 is given, and the specific influence of the ions  $ClO_4^-$  and  $NO_3^-$  used for the maintenance of the ionic strength is outlined. Table 3 gives the calculated instability constants. On the strength of own experiments and data in publications, table 4 presents the instability constants of the complexes  $TlA_n^{1-n}$  in the presence of Na as the cation of the outer sphere ( $A = CN^-, F^-, Cl^-, Br^-, J^-, CNS^-, \frac{1}{2}S_2O_3^{2-}$ ). The stability of the complex compounds increases in the order  $F^- < CN^- < Cl^- < Br^- < CNS^- < J^- < \frac{1}{2}S_2O_3^{2-}$ .

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$[Tl(CNS)_n]^{1-n}$

In the tables 5-7, the instability constants  $K^V$  at varying ionic strength and  $K^{st}$  at constant ionic strength for the ions

$[Tl(CNS)_n]^{1-n}$ ,  $TlBr_n^{1-n}$ , and  $TlJ_n^{1-n}$  are compared with one an-

other where the relation is defined by the equation:

$K^{st} = K^V \cdot C_n$ .  $C_n$  is found to have the constant value of

$4.1 \pm 0.2$ , irrespective of the nature of the anion. There are 7 tables and 10 references, 8 of which are Soviet.

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(Thallium compounds) (Alkali metals)

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(Phenanthroline)

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